Kramer Electronics, Ltd.

USER MANUAL

Room Controller Models:

RC-62 Series (RC-62, RC-62P, RC-62L)

RC-63A Series (RC-63A, RC-63AL, RC-63AP)

RC-63D Series (RC-63D, RC-63DL, RC-63DP)

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1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront the video, audio, presentation, and broadcasting professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 1,000-plus different models now appear in 11 groups[1] that are clearly defined by function.

Congratulations on purchasing your Kramer **RC-62** and/or **RC-63A** and/or **RC-63D** room controller (defined in Table 1), which are available in European and American versions.

Table 1: Defining the Room Controllers' Series[2]

	LCD Labels	**Printed Labels**	**Plastic Caps**
	Has LCD labels, letting you program the required group label, as well as rolling text on the display	The DISPLAY and SOURCES labels are printed on the unit	Has backlit plastic caps to which you can insert a label from a set of supplied stickers
RC-62 Series	RC-62L	RC-62	RC-62P
RC-63A series With a separate analog volume control adjustment knob	RC-63AL	RC-63A	RC-63AP
RC-63D Series With a separate digital volume control adjustment knob	RC-63DL	RC-63D	RC-63DP

1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Twisted-Pair Solutions; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters; GROUP 11: Sierra Products

2 The specific model is not printed on the unit. For example, RC-63DL (with LCD labels) has RC-63D printed on it and can be recognized by the LCD displays on its panel

The *Room Controllers* are designed to let you control an A/V system with ease—such as our *SummitView*™ kits[1]—in a multimedia classroom or conference room. The **RC-63DL** is provided by default with both *SummitView*™ kits.

The room controllers—**RC-62**, **RC-63A** and **RC-63D**—can be used as:

- System controllers for the *SummitView*™ system when connected via K-NET[2] cable to the **SV-551** *SummitView*™ *Processor / Switcher*. When used in this way, no programming of these units is needed and the unit does not require a separate power supply
- Advanced, standalone, wall-mounted room controllers. When used in this way, programming of these units is required[3] as well as a separate power supply

The package includes the following items:

- Any version of the **RC-62** series, the **RC-63A** series or the **RC-63D** series
- 3' (0.91m) USB cable[4]
- Screwdriver
- This user manual[5]
- RC-SV configuration software

2 Getting Started

This user manual is written for the end user. Refer to the separate RC-SV Configuration Guide (available online) for details of how to install and configure the Room Controller[6]

We recommend that you review the contents of this user manual.

1 SummitView™ is a complete and simple solution for the integration of media and control in classrooms, training rooms and presentation rooms. SummitView™ is as easy-to-use as it is to specify and install. Everything required, including wall plate interfaces, controllers, amplifiers, speakers, cable and even enclosures ready to be mounted to projection mounts is included. With SummitView™ you get everything you need for a high end integrated media system – just add the displays and sources. All the signals are transmitted over economical CAT 5 cable

2 K-NET is a proprietary Kramer protocol for interconnecting Kramer units

3 Refer to the separate online "RC-SV Configuration Guide" at http://www.kramerelectronics.com

4 Part number C-UA/MUB-3

5 Download up-to-date Kramer user manuals from the Internet at this URL: http://www.kramerelectronics.com

6 That provides information about how to set up the system. This online guide may well be updated on a regular basis. For the latest online guide, go to http://www.kramerelectronics.com

3 Overview

This user manual describes the **RC-62 / RC-63A / RC-63D** series. Each of these highly versatile controller interfaces acts as an all-in-one extended remote control panel for control of A/V equipment—especially projectors and associated equipment—in any room (such as classrooms, boardrooms, or auditoriums). They streamline operations and simplify control by integrating audio, video, and computer-video sources into a centralized system. Each room controller includes:

- Configurable backlit[1] buttons to set up any supported[2] command
- A bidirectional RS-232 wired serial port, for universal display (for example, projectors) and switcher control
- Two K-NET ports
- Two relays for the simplified and centralized control of room functions (such as lighting, closing blinds, screen settings, and so on)
- An IR control port
- An IR-learner for the customized control of external sources, receiving the IR commands from different remote transmitters without the need for an external IR remote control unit
- Macro mode operation, for programming multiple commands with the press of a single button
- Support for firmware upgrade via USB (using K-NET connection when used together with the **SV-551**. For further details, see our Web site)

In addition, the **RC-63A** and the **RC-63D** feature a separate analog and digital volume adjustment knob, respectively.

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise-levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances and position your Kramer *Room Controller* away from moisture, excessive sunlight and dust

Caution – No operator-serviceable parts inside unit.

Warning – Use only the Kramer Electronics input power wall adapter that is provided with this unit[1].

Warning – Disconnect power and unplug unit from wall before installing or removing device or servicing unit.

1 256 colors are available for backlit buttons (to be configured by the system integrator)

2 To be configured by the system integrator only

4 Installing the Room Controller

This section defines the:

- **RC-62**, **RC-62P**, and **RC-62L**, see section 4.1
- **RC-63A**, **RC-63AL** and **RC-63AP**, see section 4.2
- **RC-63D**, **RC-63DL**, **RC-63DP**, see section 4.3

4.1 Defining the RC-62, RC-62P and RC-62L

The **RC-62** is available as a 1 Gang wall plate (for the USA) or a 2 Gang wall plate (for Europe). It features 6 front panel buttons designed in two groups; one group of 2 buttons, and another group of 4 buttons. Each group can be programmed according to the user's requirements. LCD and plastic cap variations are available as well as printed graphics. The:

- **RC-62** has the DISPLAY and SOURCES labels printed on the unit
- **RC-62P** has a backlit plastic cap to which you can insert a label from a set of supplied stickers (see section 6)
- **RC-62L** has an LCD label, letting you program the required group label

The **RC-62** series includes two relays for the simplified and centralized control of room functions (such as lighting, closing blinds, screen settings, and so on), an IR output, a bi-directional RS-232 port, and two K-NET ports. In addition, the **RC-62** features an IR-learner for the customized control of external sources, memorizing the IR commands from different remote transmitters. A USB port is included for programming the **RC-62** via a computer.

Figure 1, Figure 2, Table 2 and Table 3 define the **RC-62**, **RC-62P**, and **RC-62L**.

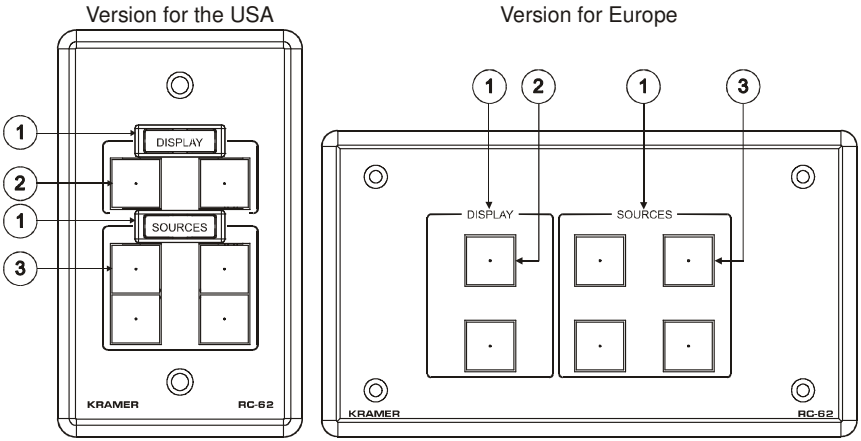


Figure 1: RC-62 Room Controller Front Panel[2]

1 For example: model number AD2512C, part number 2535-000251

2 The USA version shown has plastic cap labels (RC-62P), and the European version shown has printed labels (RC-62)

Table 2: RC-62 Front Panel Features

#	Feature	Function
1	"DISPLAY" and "SOURCE" Labels	**RC-62** - "DISPLAY" and "SOURCE" are printed on the panel **RC-62P** - backlit plastic cap to affix your own labels (see Figure 10) **RC-62L** - an LCD version on a blue background that displays up to 8 characters at once (programmed via the USB port) and includes rolling text
2	DISPLAY Buttons	These 2 configurable backlit buttons can set up any supported command[1]
3	SOURCE Buttons	These 4 configurable backlit buttons can set up any supported command[1]

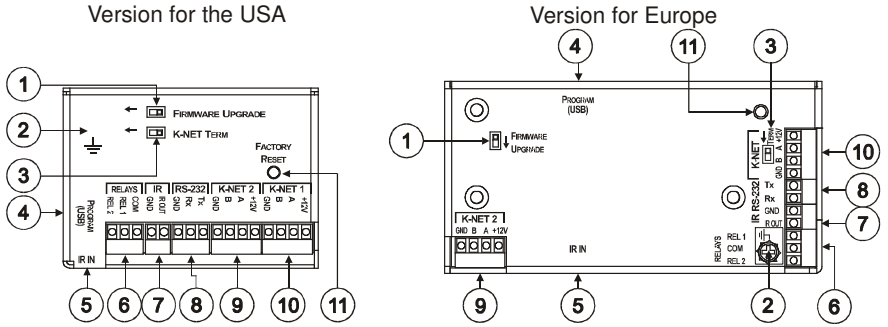


Figure 2: RC-62 Room Controller Rear Panel

Table 3: RC-62 Rear Panel Features

#	Feature	Function
1	FIRMWARE UPGRADE Switch	For technical support use only
2	Grounding Screw	Connect to grounding wire (optional)
3	K-NET TERM Switch	For line termination
4	PROGRAM (USB) Connector	Connect to a computer for unit configuration
5	IR IN Receiver	Receives IR remote commands
6	RELAYS Connections	Connect to room items (such as lighting, screen settings, blinds, and so on)
7	IR Connections	Control a machine via an IR Emitter
8	RS-232 Connections	Connect to the RS-232 connector on the A/V equipment or a PC or other Serial Controller
9	K-NET 2 Connections	On K-NET 1 (K-NET) and K-NET 2, PIN GND is for the Ground connection[2]; PIN B (-) and PIN A (+) are for RS-485, and PIN +12V is for powering the unit
10	K-NET 1 (K-NET) Connections	
11	FACTORY RESET Button	Press to revert to the default settings, including all the configured buttons

1 By the system integrator only

2 The ground connection is sometimes connected to the shield of the RS-485 cable (in most applications, it is not connected)

4.2 Defining the RC-63A, RC-63AL and RC-63AP

The Kramer **RC-63A** is available as a 2 Gang wall plate. It features 6 front panel buttons designed in two groups; one group of 2 buttons, and another group of 4 buttons. Each group can be programmed according to the user's requirements. LCD and plastic cap variations are available:

- **RC-63A** has the DISPLAY and SOURCES labels printed on the unit
- **RC-63AP** has a backlit plastic cap to which you can insert a label from a set of supplied stickers
- **RC-63AL** has an LCD label, letting you program the required group label, as well as rolling text on the display

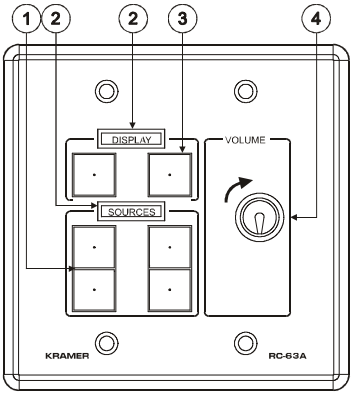
The **RC-63A** also includes:

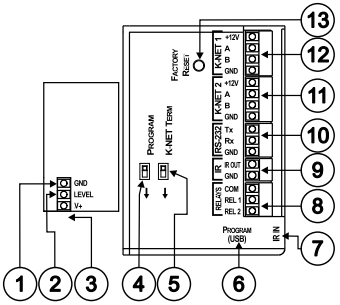
- An analog volume control adjustment knob
- Two relays for the simplified and centralized control of room functions (such as lighting, closing blinds, screen settings, and so on)
- An IR output, a bi-directional RS-232 port, and two K-NET ports
- An IR-learner for the customized control of external sources, memorizing the IR commands from different remote transmitters

A USB port is included for programming the **RC-63A** via a computer.

Table 4 defines the **RC-63 RC-63AL** and **RC-63AP**.

Table 4: Defining the RC-63, RC-63AL and RC-63AP[1]





#	Feature	Function
1	SOURCE Buttons	These 4 configurable backlit buttons can set up any supported command[2]
2	"DISPLAY" and "SOURCE" Labels	**RC-63A** - "DISPLAY" and "SOURCE" are printed on the panel **RC-63AP** - backlit plastic cap to affix your own labels (see Figure 10) **RC-63AL** - an LCD version on a blue background that displays up to 8 characters at once (programmed via the USB port) and includes rolling text
3	DISPLAY Buttons	These 2 configurable backlit buttons can set up any supported command[2]
4	VOLUME Knob	Rotate clockwise to increase the level

#	Feature	Function
1	GND Connection	Ground connection for the potentiometer
2	LEVEL Connection	Wiper of potentiometer
3	+V PIN	+V connection for the potentiometer
4	PROGRAM Switch	For technical support use only
5	K-NET TERM Switch	For line termination
6	PROGRAM (USB) Connector	Connect to a computer for unit configuration
7	IR IN Receiver	Receives IR remote commands
8	RELAY Connections	Connect to room items (such as lighting, screen settings, blinds, and so on)
9	IR Connections	Control a machine via an IR Emitter
10	RS-232 Connections	Connect to the RS-232 connector on the A/V equipment or a PC or other Serial Controller
11	K-NET 2 Connections	On K-NET 1 and K-NET 2, PIN GND is for the Ground connection[3]; PIN B (-) and PIN A (+) are for RS-485, and PIN +12V is for powering the unit
12	K-NET 1 Connections	
13	FACTORY RESET Button	Press to revert to the default settings, including all the configured buttons

1 This European version has LCD labels

2 By the system integrator only

3 The ground connection is sometimes connected to the shield of the RS-485 cable (in most applications, it is not connected)

4.3 Defining the RC-63D, RC-63DP and RC-63DL

The Kramer **RC-63D** is available as a 2 Gang wall plate for the USA or a 2 Gang wall plate for Europe. It features 6 front panel buttons designed in two groups; one group of 2 buttons, and another group of 4 buttons. Each group can be programmed according to the user's requirements. LCD and plastic cap variations are available:

- **RC-63D** has the DISPLAY and SOURCES labels printed on the unit
- **RC-63DP** has a backlit plastic cap to which you can insert a label from a set of supplied stickers
- **RC-63DL** is the default room controller included as part of the *SummitView™ Standard Kit Box* and the *SummitView™ Essentials Kit Box* and described in that user manual, and has an LCD label, letting you program the required group label, as well as rolling text on the display

The **RC-63D** also includes:

- A digital volume control adjustment knob with five LEDs
- Two relays for the simplified and centralized control of room functions (such as lighting, closing blinds, screen settings, and so on)
- An IR output, a bi-directional RS-232 port, and two K-NET ports
- An IR-learner for the customized control of external sources, memorizing the IR commands from different remote transmitters

A USB port is included for programming the **RC-63D** via a computer.

Figure 3, Figure 4, Table 5 and Table 6 define the **RC-63D**, **RC-63DL** and **RC-63DP**.

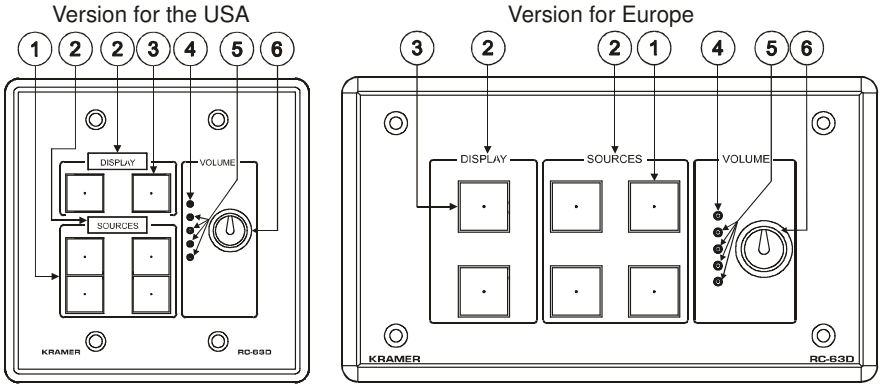


Figure 3: RC-63D Room Controller Front Panel

Table 5: RC-63D Front Panel Features

#	Feature	Function
1	SOURCE Buttons	These 4 configurable backlit buttons can set up any supported command[1]
2	"DISPLAY" and "SOURCE" Labels	**RC-63D** - "DISPLAY" and "SOURCE" are printed on the panel **RC-63DP** - backlit plastic cap to affix your own labels (see Figure 10) **RC-63DL** - an LCD version on a blue background that displays up to 8 characters at once (programmed via the USB port) and includes rolling text
3	DISPLAY Buttons	These 2 configurable backlit buttons can set up any supported command[1]
4	VOLUME LED	Lights red, indicating maximum volume
5	VOLUME LEDs	Lights green, indicating volume level
6	VOLUME Knob	Rotate clockwise to increase the level

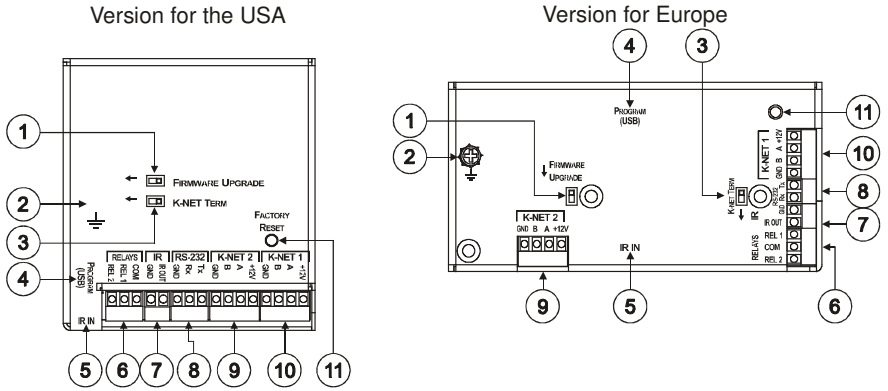


Figure 4: RC-63D Room Controller Rear Panel

Table 6: RC-63D Rear Panel Features

#	Feature	Function
1	FIRMWARE UPGRADE Switch	For technical support use only
2	Grounding Screw	Connect to grounding wire
3	K-NET TERM Switch	For line termination
4	PROGRAM (USB) Connector	Connect to a computer for unit configuration
5	IR IN Receiver	Receives IR remote commands
6	RELAY Connections	Connect to room items (such as lighting, screen settings, and so on)
7	IR Connections	Control a machine via an IR Emitter
8	RS-232 Connections	Connect to the RS-232 connector on the A/V equipment or a PC or other Serial Controller
9	K-NET 2 Connections	On K-NET 1 and K-NET 2, PIN GND is for the Ground connection[2]; PIN B (-) and PIN A (+) are for RS-485, and PIN +12V is for powering the unit
10	K-NET 1 Connections	
11	FACTORY RESET Button	Press to revert to the default settings, including all the configured buttons

1 By the system integrator only

2 The ground connection is sometimes connected to the shield of the RS-485 cable (in most applications, it is not connected)

5 Using Your Room Controller

This user manual is applicable once the unit is installed and configured[1]. The installation process is not detailed in this user manual, and includes:

- Configuration via the Windows®-based configuration software and/or the IR learner
- Setting up the labels on the buttons, according to your specific requirements[2]
- Hardware installation
- Connecting the display

When the room controller functions as a standalone, wall-mounted room controller, as illustrated in Figure 6:

- The controlled machines are connected directly to the room controller
- A power supply unit is required
- It requires programming[3]

The power supply pinout is defined in Figure 5:

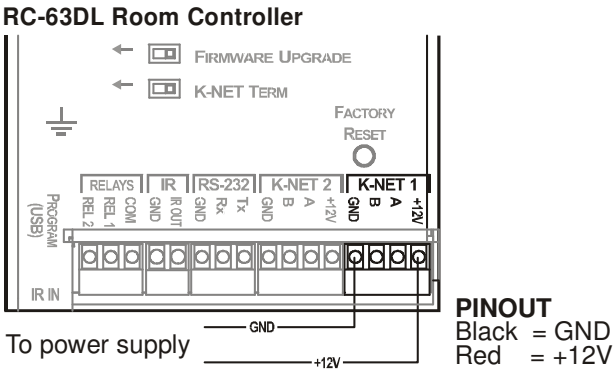


Figure 5: RC-63D Standalone Power Supply Pinout

The room controller is easy to use, as the example in Figure 6 and Table 7 defines[4]:

1 By authorized Kramer technical personnel or by an external system integrator

2 It is recommended to place labels on the buttons prior to installing the unit, as this involves removing the face plate

3 Refer to the separate online "RC-SV Configuration Guide" at http://www.kramerelectronics.com

4 Your room controller was installed and configured to suit your specific requirements. This example describes how to setup one of an unlimited number of available setups for the system

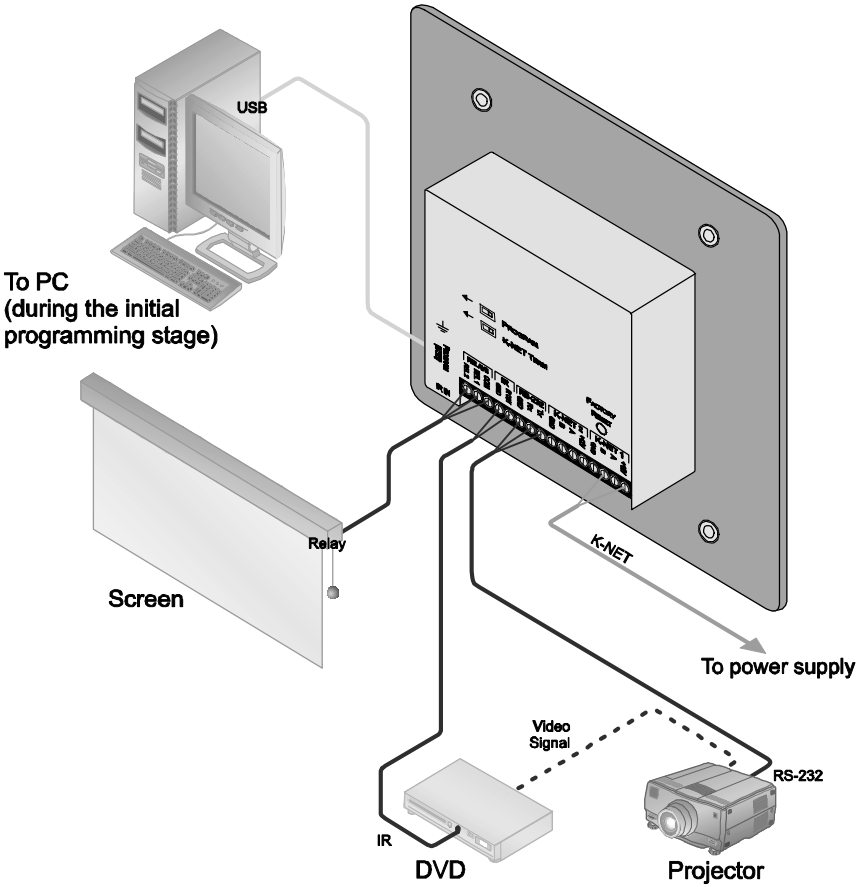


Figure 6: Example of a Typical RC-63DL Configuration

Table 7: Connection Scheme (for the example in Figure 6)

This connector:	Connects to:
REL 1	The screen
REL 2	
IR OUT and *GND* PINs	A DVD player
RS-232 (*TX*, *RX*) Terminal Block Connector	A projector
+12V and GND	A power supply unit[1]
A PC is connected via the *USB* connector for setup of the room controller	

1 Optional, see Table 9

When the room controller is used as a system controller for the *SummitView*™ system via the proprietary communication channel K-NET, as illustrated in Figure 7:

- It requires only a K-NET connection to the **SV-551** *SummitView*™ *Processor / Switcher*
- A power supply unit is **not** required[1]
- No programming of the room controller is needed

Figure 7 shows how the room controller is used as part of the *SummitView*™ system:

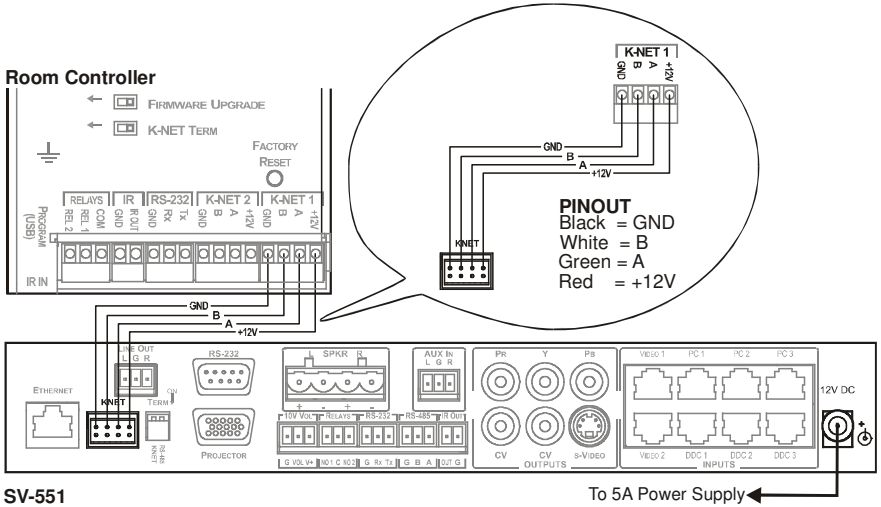


Figure 7: RC-63D connected to the SV-551 SummitView™ Processor / Switcher

1 Power supplies are sold separately. Consult your Kramer dealer for details

5.1 Operating the Room Controller

In the following example[1] that is illustrated in Figure 8, the room controller is labeled with specific functions and each button is programmed[2] to perform several tasks[3] as defined in Table 8.

Table 8: The Commands Configuration

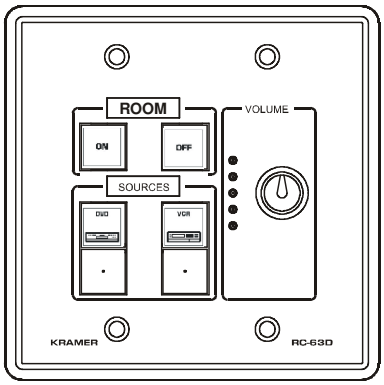


Figure 8: RC-63DL Labels Setup

The Label	The Macro Sequence
ON	• Power up the projector • Power up the DVD player • Roll down the projector screen • 1 minute delay [for the projector to heat up] • The projector selects the DVD input
OFF	• Power down the projector • Stop the DVD player • Power down the DVD player • Stop the VCR • Power down the VCR • Roll up the projector screen
DVD	• Stop the video player • The projector selects the DVD input • Play the DVD
VCR	• Stop the DVD • The projector selects the VCR input • Play the VCR
VOLUME	• Use the VOLUME knob to adjust the audio level

5.2 Using the Macro Buttons

Pressing any button initiates a macro sequence[4], during which the button blinks (as programmed by the system integrator).

1 This is only one example among numerous possibilities, each button can be configured as required. In this example, two buttons are not assigned

2 By the technical installer

3 A macro sequence, including several commands per button, carried out one after the other

4 The macro sequence can be carried out instantly or can take a while, depending on the delay times included in the sequence

6 Customizing the Controllers' Buttons and Labels

This section describes the button and panel labels.

6.1 Button Labels

The backlit buttons[1] are available on plastic caps. We recommend you to insert the labels on the Front Panel buttons before installing the controller, as it involves removing the face plate. Figure 9 illustrates the button labels for the macro buttons[2]:

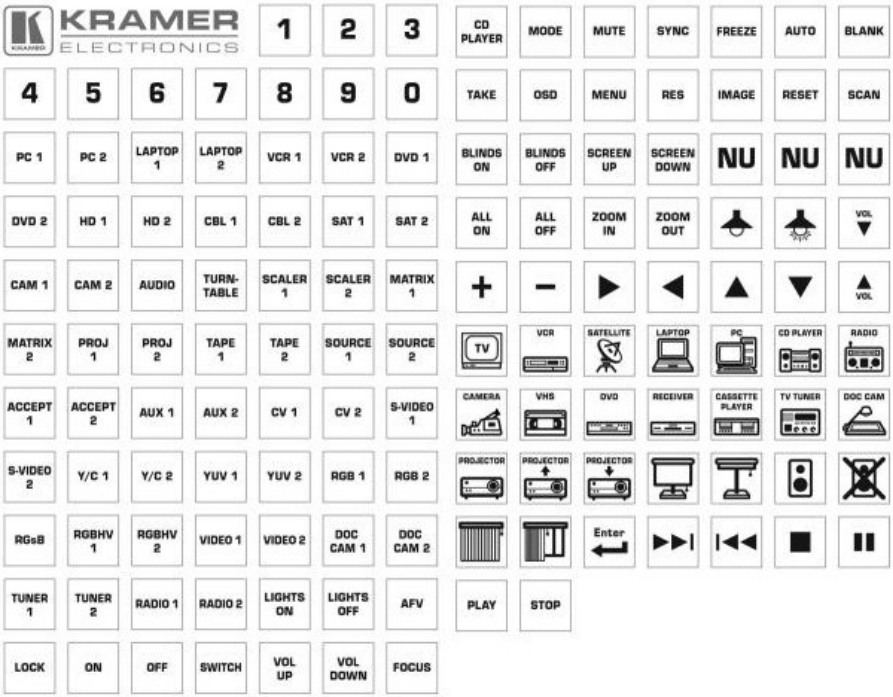


Figure 9: Sample "Button Labels" Sheet

1 You can program the color of the button with flexible RGB values

2 Installed by the system integrator only

6.2 Panel Labels

Figure 10 illustrates the sample "Labels" sheet[1] supplied with the **RC-62P**, **RC-62AP** and the **RC-63DP**, for inserting under the plastic caps:

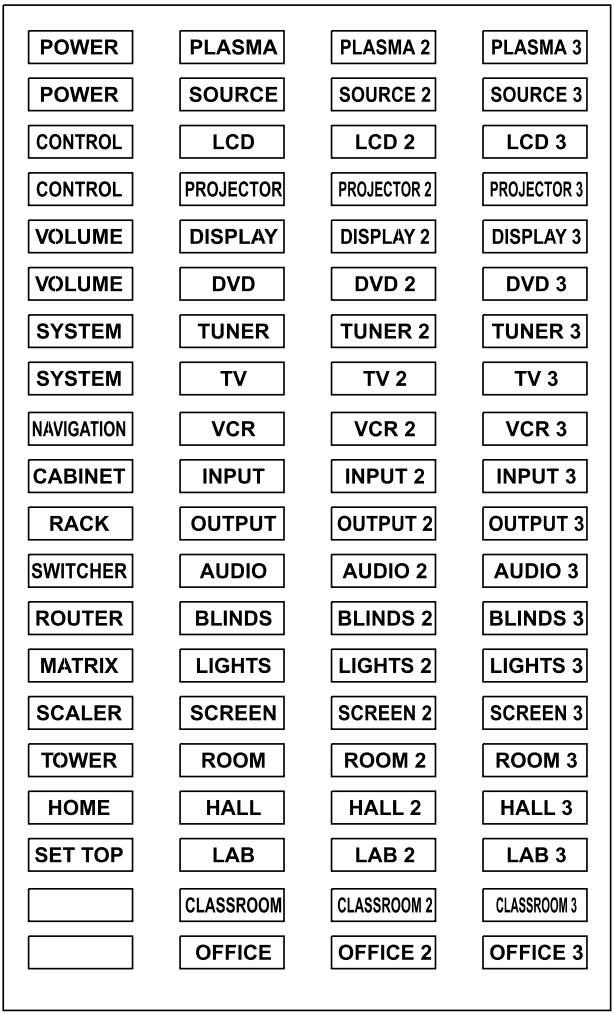


Figure 10: Sample "Panel Labels" Sheet

1 Installed by the system integrator only

7 Technical Specifications

Table 9 defines the technical specifications:

Table 9: Technical Specifications[1] of the Room Controller Series

PORTS:	1 RS-232 on terminal block connectors; 2 K-NET on terminal block connectors; 1 USB port
OUTPUTS:	2 relays on terminal block connectors (36V AC or DC, 2A, 60VAC maximum on non-inductive load); 1 IR emitter on terminal block connectors
POWER SOURCE:	**RC-62**/**RC-63A**: 12V DC, 100mA **RC-62L**/**RC-63D**: 12V DC, 140mA **RC-63DL**: 12V DC, 200mA
FUSE:	500mA, FSMD 2920
ADAPTER:	*SummitView™* kits: 12V, 5A; independent: 12V/500mA
DIMENSIONS:	**RC-62** (for the USA): 6.9cm x 2.6cm x 11.4cm (2.72" x 1.02" x 4.49", W, D, H) **RC-63A** and **RC-63D**: (for the USA): 11.4cm x 2.6cm x 11.4cm (4.49" x 1.02" x 4.49", W, D, H) **RC-62** and **RC-63D** (for Europe): 15.2cm x 1.9cm x 8.6cm (5.98" x 0.75" x 3.39", W, D, H)
WEIGHT:	0.14kg. (0.31lbs.) approx.
ACCESSORIES:	USB cable 3' (0.91m)[2], screwdriver, Windows®-based Kramer control software
OPTIONS:	12V DC, 0.5A Power supply[3] Kramer 3.5mm to IR Emitter Control Cable (C-A35/IRE-10), 15 meter and 20 meter IR emitter extension cables

1 Specifications are subject to change without notice

2 Part number C-UA/MUB-3

3 Model number AD2512C, part number 2535-000251

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for seven years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the Web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed, or on which the WARRANTY VOID IF TAMPERED sticker has been torn, reattached, removed or otherwise interfered with.
3. Damage, deterioration or malfunction resulting from:
   i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
   ii) Product modification, or failure to follow instructions supplied with the product
   iii) Repair or attempted repair by anyone not authorized by Kramer
   iv) Any shipment of the product (claims must be presented to the carrier)
   v) Removal or installation of the product
   vi) Any other cause, which does not relate to a product defect
   vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.

NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.

This equipment has been tested to determine compliance with the requirements of:

EN-50081:	"Electromagnetic compatibility (EMC); generic emission standard. Part 1: Residential, commercial and light industry"
EN-50082:	"Electromagnetic compatibility (EMC) generic immunity standard. Part 1: Residential, commercial and light industry environment".
CFR-47:	FCC Rules and Regulations: Part 15: "Radio frequency devices Subpart B Unintentional radiators"

CAUTION!

- Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- Use the supplied DC power supply to feed power to the machine.
- Please use recommended interconnection cables to connect the machine to other components.

For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com, where updates to this user manual may be found.
We welcome your questions, comments and feedback.

Safety Warning:
Disconnect the unit from the power supply before opening/servicing.

Kramer Electronics, Ltd.
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P/N: 2900-000473 REV 1